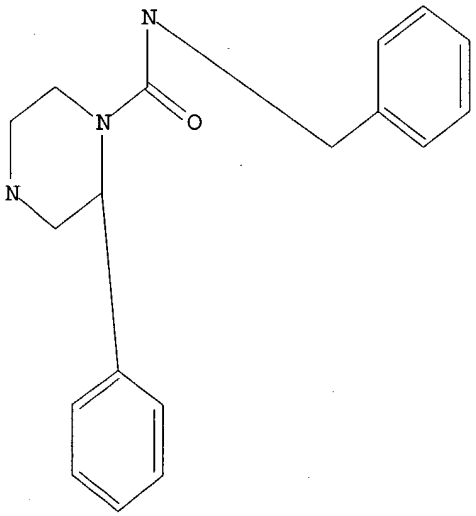
```
  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 12:15:12 ON 31 JAN 2004

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 12:15:35 ON 31 JAN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   30 JAN 2004  HIGHEST RN 644468-14-4
DICTIONARY FILE UPDATES:  30 JAN 2004  HIGHEST RN 644468-14-4

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=>
Uploading 089964.str

L1      STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1                STR
```



Structure attributes must be viewed using STN Express query preparation.

```
=> s l1
SAMPLE SEARCH INITIATED 12:15:56 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     11 TO ITERATE

100.0% PROCESSED      11 ITERATIONS                                  5 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:           22 TO      418
PROJECTED ANSWERS:               5 TO      234

L2             5 SEA SSS SAM L1

=> s l1 sss full
FULL SEARCH INITIATED 12:16:02 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -    378 TO ITERATE

100.0% PROCESSED     378 ITERATIONS                               142 ANSWERS
SEARCH TIME: 00.00.01

L3           142 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   155.42     155.63

FILE 'CAPLUS' ENTERED AT 12:16:09 ON 31 JAN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 31 Jan 2004  VOL 140 ISS 6
FILE LAST UPDATED: 30 Jan 2004  (20040130/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.

=> s l3
L4             6 L3

=> d l4 1-6 ibib abs hitstr

L4   ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER:         2002:793614  CAPLUS
DOCUMENT NUMBER:          137:310935
```

09/288,556

TITLE: Preparation of piperazine derivatives as tachykinin antagonists
INVENTOR(S): Pentassuglia, Giorgio
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002081461	A1	20021017	WO 2002-GB1602	20020405
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1377560	A1	20040107	EP 2002-720172	20020405
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: GB 2001-8594 A 20010405
WO 2002-GB1602 W 20020405
OTHER SOURCE(S): MARPAT 137:310935
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

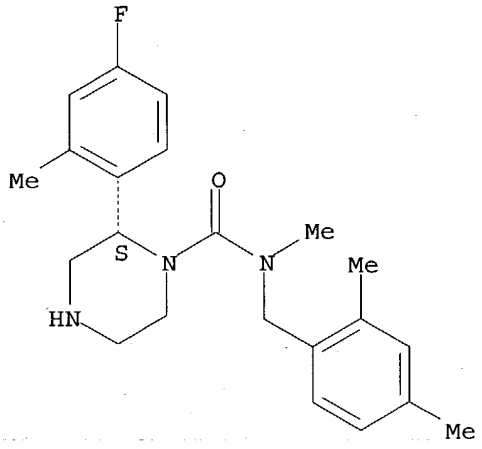
AB The present invention relates to piperazine derivs. I [R, R1 = halogen, C1-4-alkyl; R2 = H, C1-4-alkyl; n, m = 1, 2] and pharmaceutically acceptable salts and solvates thereof, to process for their prepn., to pharmaceutical compns. contg. them and to their medical use. The invention also relates to a process: (a) for the prepn. of I, which comprises prepn. via redn. of ketopiperazines II (Ra = H, N-protecting group) with a suitable reducing agent; or (b) for the prepn. of I, which comprises the reaction of phenylpiperazines III (Ra = N-protecting group) with triphosgene and an org. base, followed by addn. of benzylzmines IV; each followed, where necessary or desired by one or more of the following: (i) removal of the nitrogen protecting group; (ii) isolation of the compd. as a salt or solvate thereof; (iii) sepn. of I or its derivs. into the enantiomers thereof. Thus, piperazinylurea V was prepd. from (S)-3-(4-Fluoro-2-methylphenyl)piperazin-2-one via carbonylation with triphosgene in CH2Cl2 contg. Et3N, amidation with N-Methyl-2,4-dimethylbenzylamine hydrochloride in CH2Cl2 contg. EtN(CHMe2)2 and redn. of the resulting benzamide VI with BH3 in THF.

IT **470691-98-6P 470692-06-9P 470692-08-1P**
470692-09-2P 470692-10-5P 470692-11-6P
470692-12-7P 470692-13-8P
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(claimed tachykinin antagonist; prepn. of piperazine derivs. as tachykinin antagonists)

RN 470691-98-6 CAPLUS

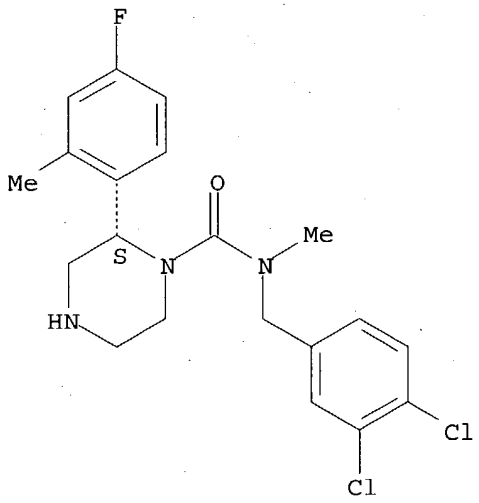
CN 1-Piperazinecarboxamide, N-[(2,4-dimethylphenyl)methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



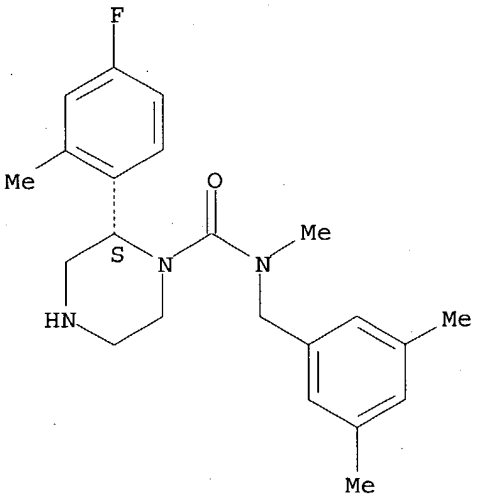
RN 470692-06-9 CAPLUS
CN 1-Piperazinecarboxamide, N-[(3,4-dichlorophenyl)methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



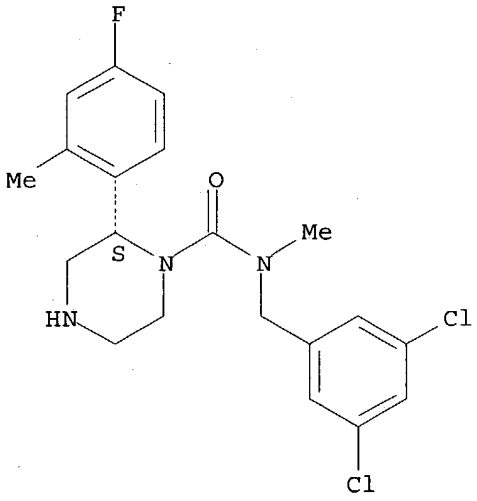
RN 470692-08-1 CAPLUS
CN 1-Piperazinecarboxamide, N-[(3,5-dimethylphenyl)methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



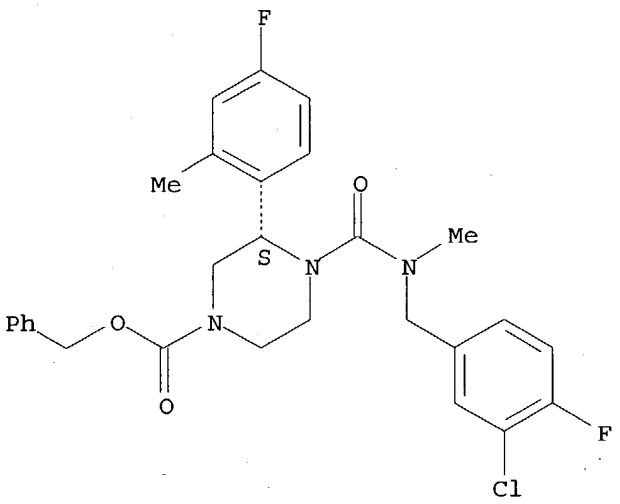
RN 470692-09-2 CAPLUS
CN 1-Piperazinecarboxamide, N-[(3,5-dichlorophenyl)methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



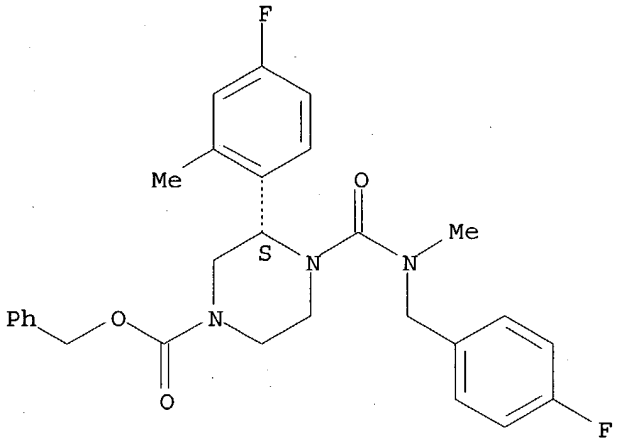
RN 470692-10-5 CAPLUS
CN 1-Piperazinecarboxamide, N-[(3-chloro-4-fluorophenyl)methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 470692-18-3 CAPLUS
CN 1-Piperazinecarboxylic acid, 3-(4-fluoro-2-methylphenyl)-4-[[[(4-fluorophenyl)methyl]methylamino]carbonyl]-, phenylmethyl ester, (3S)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:265403 CAPLUS
DOCUMENT NUMBER: 134:295839
TITLE: Preparation of 2-phenylpiperazine-1-carboxylic acid benzylamides as tachykinin antagonists
INVENTOR(S): Alvaro, Giuseppe; Di Fabio, Romano; Giovannini, Riccardo; Guercio, Giuseppe; St. Denis, Yves; Ursini, Antonella
PATENT ASSIGNEE(S): Glaxo Group Limited, UK
SOURCE: PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001025219	A2	20010412	WO 2000-EP9722	20001005
WO 2001025219	A3	20011213		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1218359	A2	20020703	EP 2000-969414	20001005
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
BR 2000014541	A	20020917	BR 2000-14541	20001005
JP 2003511377	T2	20030325	JP 2001-528165	20001005
NO 2002001637	A	20020606	NO 2002-1637	20020405
US 2003028021	A1	20030206	US 2002-190170	20020703
US 6642240	B2	20031104		

PRIORITY APPLN. INFO.:	GB 1999-23748	A	19991007
	WO 2000-EP9722	W	20001005
	US 2002-89964	A1	20020508

OTHER SOURCE(S): MARPAT 134:295839

GI

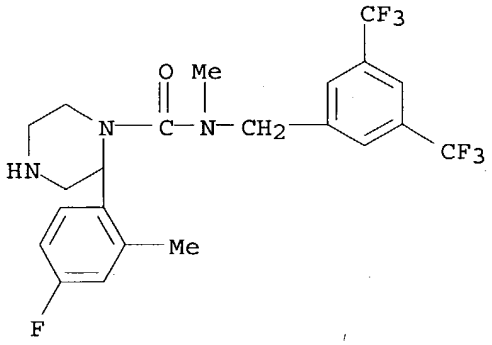
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The invention relates to piperazine derivs. I [wherein: R = halo, C1-4 alkyl; R1 = H, C1-4 alkyl; R2 = H, C1-4 alkyl, C2-6 alkenyl, C3-7 cycloalkyl; or NR1CR2 = 5- to 6-membered heterocyclyl; R3 = CF3, C1-4 alkyl, C1-4 alkoxy, CF3O, or halo; R4 = H, (CH2)qR7 or (CH2)rCO(CH2)pR7; R5 = H, C1-4 alkyl or COR6; R6 = H, OH, NH2, NHMe, NMe2, 5-membered heteroaryl contg. 1-3 N/O/S or 6-membered heteroaryl contg. 1-3 N atoms; R7 = H, OH, or NR8R9 wherein R8 and R9 = H or C1-4 alkyl (un)substituted by OH or by NH2; R10 = H, C1-4 alkyl; or R10 and R2 form C3-7 cycloalkyl; m, n = 0-3; p, r = 0-4; q = 1-4; provided that, when NR1CR2 = 5- to 6-membered heterocyclic, then (i) m = 1 or 2; (ii) when m = 1, R .noteq. F; and (iii) when m = 2, both R .noteq. F] and pharmaceutically acceptable salts and solvates thereof. The compds. are potent and specific antagonists of tachykinins, including substance P and other neurokinins. Examples include 38 syntheses, 82 prepns. of intermediates, 4 std. formulations, and 2 bioassays. For instance, (+)-(S)-3-(4-fluoro-2-methylphenyl)piperazin-2-one (prepn. given) was treated with triphosgene and amidated with 3,5-(F3C)2C6H3CHMeNHMe to give 2 diastereomeric amides. Sepn. of the (S,S)-diastereomer by flash chromatog. and redn. of the ring oxo group with BH3.THF gave title compd. II, isolated as the acetate salt (III). Using the gerbil foot-tapping model for reversal of an NK1 agonist, III had an oral ED50 of 0.04 mg/kg.

IT **334476-29-8P 334476-30-1P 334476-31-2P**
334476-32-3P 334476-33-4P 334476-34-5P
334476-35-6P 334476-36-7P 334476-37-8P
334476-38-9P 334476-39-0P 334476-40-3P
334476-41-4P 334476-42-5P 334476-43-6P
334476-44-7P 334476-45-8P 334476-46-9P
334476-47-0P 334476-48-1P 334476-49-2P

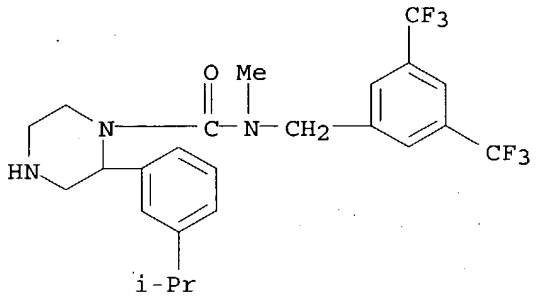
334476-50-5P 334476-51-6P 334476-52-7P
334476-53-8P 334476-58-3P 334476-59-4P
334476-60-7P 334476-61-8P 334476-62-9P
334476-64-1P 334476-65-2P 334476-66-3P
334476-67-4P 334476-68-5P 334476-69-6P
334476-70-9P 334476-71-0P 334476-72-1P
334476-73-2P 334476-74-3P 334476-75-4P
334476-76-5P 334476-77-6P 334476-78-7P
334476-82-3P 334476-83-4P 334476-84-5P
334476-85-6P 334476-86-7P 334823-44-8P
334823-46-0P 334825-32-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(drug candidate; prepn. of phenylpiperazinecarboxylic acid benzylamides as tachykinin antagonists)

RN 334476-29-8 CAPLUS
CN 1-Piperazinecarboxamide, N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-2-(4-fluoro-2-methylphenyl)-N-methyl-, monohydrochloride (9CI) (CA INDEX NAME)



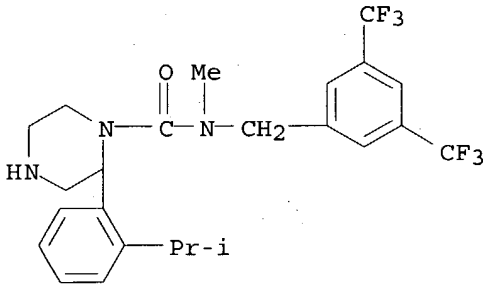
● HCl

RN 334476-30-1 CAPLUS
CN 1-Piperazinecarboxamide, N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-N-methyl-2-[3-(1-methylethyl)phenyl]-, monohydrochloride (9CI) (CA INDEX NAME)



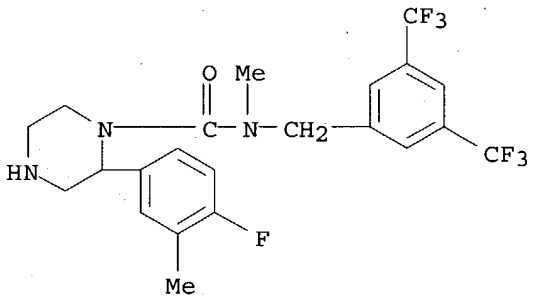
● HCl

RN 334476-31-2 CAPLUS
CN 1-Piperazinecarboxamide, N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-N-methyl-2-[2-(1-methylethyl)phenyl]-, monohydrochloride (9CI) (CA INDEX NAME)



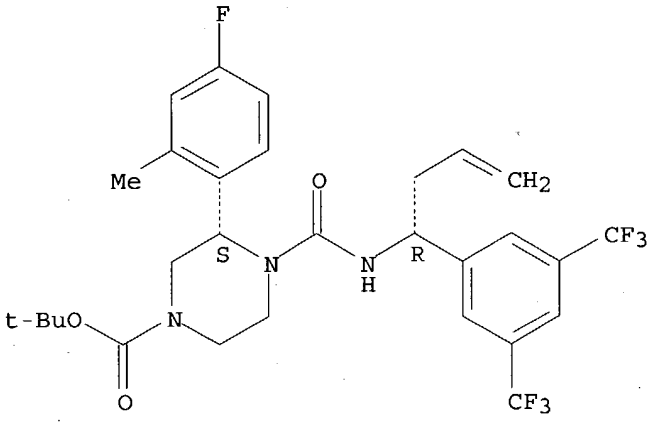
● HCl

RN 334476-32-3 CAPLUS
CN 1-Piperazinecarboxamide, N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-2-(4-fluoro-3-methylphenyl)-N-methyl-, monohydrochloride (9CI) (CA INDEX NAME)



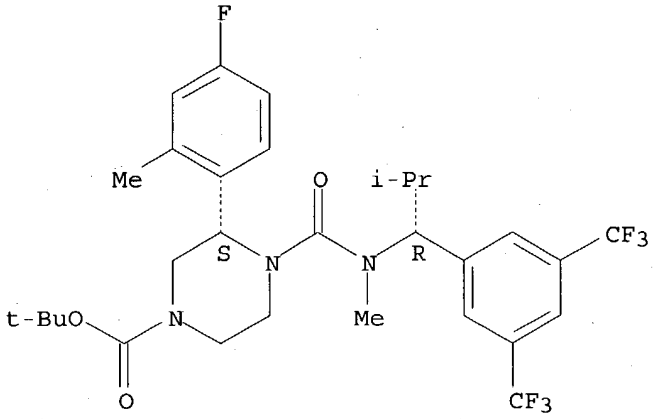
● HCl

RN 334476-33-4 CAPLUS
CN 1-Piperazinecarboxamide, N-[[3,5-bis(trifluoromethyl)phenyl]methyl]-2-(2,4-difluorophenyl)-N-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

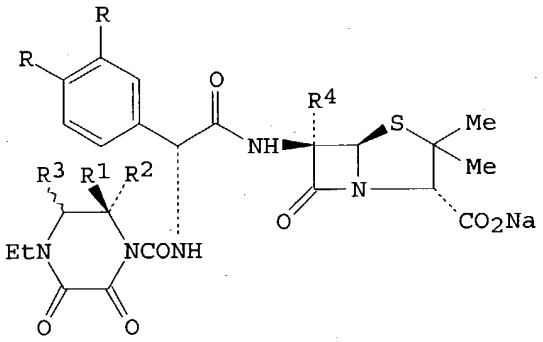


RN 334477-80-4 CAPLUS
CN 1-Piperazinecarboxylic acid, 4-[[[(1R)-1-[3,5-bis(trifluoromethyl)phenyl]-2-methylpropyl]methylamino]carbonyl]-3-(4-fluoro-2-methylphenyl)-, 1,1-dimethylethyl ester, (3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1989:594366 CAPLUS
DOCUMENT NUMBER: 111:194366
TITLE: Synthesis and biological activity of a series of piperazine-2,3-dione containing penicillins and 6.alpha.-formamidopenicillins. I. Derivatives substituted at C(5) or C(6) of the piperazine ring
AUTHOR(S): Davies, David T.; Harrington, Frank P.; Knott, Sarah J.; Southgate, Robert
CORPORATE SOURCE: Chemother. Res. Cent., Beecham Pharm., Betchworth/Surrey, RH3 7AJ, UK
SOURCE: Journal of Antibiotics (1989), 42(3), 367-73
CODEN: JANTAJ; ISSN: 0021-8820
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:194366
GI



I

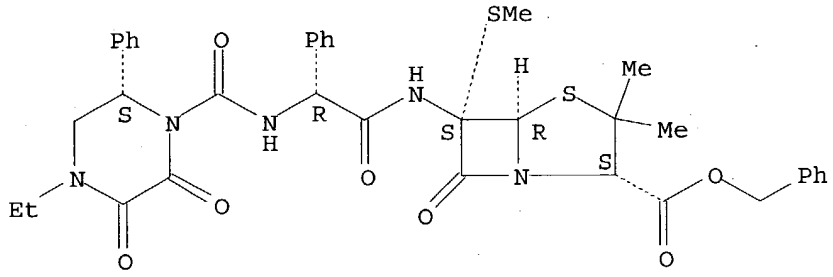
AB Title compds. I (R = H, OAc; R1 - R3 = H, Me, Ph; R4 = H, NHCHO) were prepd. The products had bactericidal activity, but offered no advantage over I (R - R3 = H, R4 = H, NHCHO).

IT **123361-19-3P 123361-31-9P 123409-99-4P 123410-14-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and aminolysis of)

RN 123361-19-3 CAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[[(4-ethyl-2,3-dioxo-6-phenyl-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-3,3-dimethyl-6-(methylthio)-7-oxo-, phenylmethyl ester, [2S-[2.alpha.,5.alpha.,6.alpha.,6[S*(R*)]]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



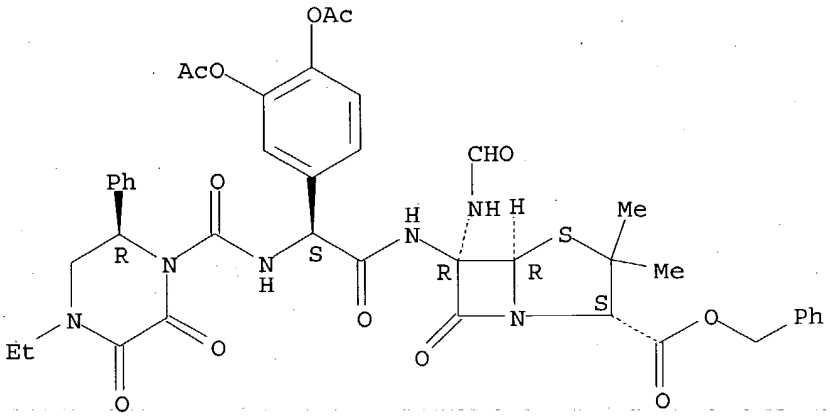
RN 123361-31-9 CAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6-[[[3,4-bis(acetyloxy)phenyl][[(4-ethyl-2,3-dioxo-6-phenyl-1-piperazinyl)carbonyl]amino]acetyl]amino]-3,3-dimethyl-6-(methylthio)-7-oxo-, phenylmethyl ester, [2S-[2.alpha.,5.alpha.,6.alpha.,6[S*(R*)]]]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

piperazinyl)carbonyl]amino]acetyl]amino]-6-(formylamino)-3,3-dimethyl-7-oxo-, phenylmethyl ester, [2S-[2.alpha.,5.alpha.,6.beta.[R*(S*)]]]- (9CI) (CA INDEX NAME)

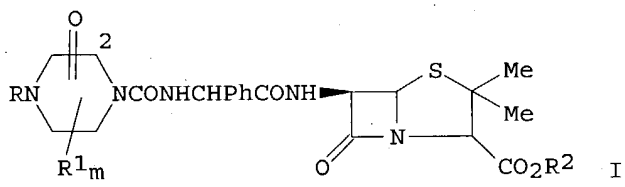
Absolute stereochemistry.



L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1983:71807 CAPLUS
DOCUMENT NUMBER: 98:71807
TITLE: Penicillins.
PATENT ASSIGNEE(S): Toyama Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 36 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 57118587	A2	19820723	JP 1981-188407	19811126

PRIORITY APPLN. INFO.: JP 1981-188407 19811126
OTHER SOURCE(S): CASREACT 98:71807
GI



AB Forty-eight penicillin derivs. [d-(-)-I; R = H, alkyl, alkenyl, acyl, aroyl, etc.; R1 = H, Me, Ph, etc.; R2 = H, Na; m = 1, 2], effective bactericides at 0.4-100 .mu.g/mL, were prepd. Thus, 3.71 g Me3SiCl was refluxed with 2.5 g 1-acetyl-3-oxopiperazine and 3.45 g Et3N in dioxane, Et3N.HCl filtered, and the filtrate treated with 1.8 g COCl2 at -30.degree. to -40.degree. and room temp. to give 3.5 g 4-acetyl-2-oxo-1-piperazinecarbonyl chloride, which (900 mg) was treated with 1.0 g 6-[d-(-)-.alpha.-amino-.alpha.-phenylacetamido]penicillanic

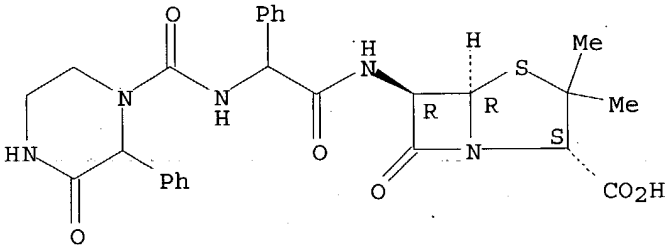
acid in 80% aq. THF at 0.degree. and pH 8.0-8.5, and the mixt. kept at pH 7.5-8.0 and 5-10.degree. to give 94% I (R = Ac, R1 = H, R2 = Na, O at 2-position).

IT **59703-75-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and bactericidal activity of)

RN 59703-75-2 CAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[[[[(3-oxo-2-phenyl-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

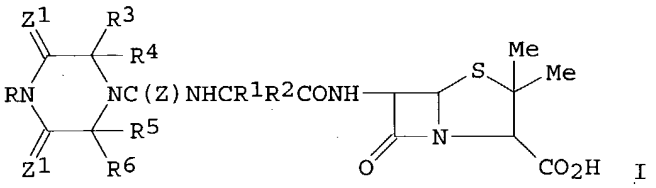
ACCESSION NUMBER: 1976:463059 CAPLUS
DOCUMENT NUMBER: 85:63059
TITLE: Penicillins
INVENTOR(S): Saikawa, Isamu; Takano, Shuntaro; Yoshida, Chosaku; Takashima, Okuta; Momoi, Kaishu; Kuroda, Seietsu; Komatsu, Miwako; Yasuda, Takashi; Kodama, Yutaka
PATENT ASSIGNEE(S): Toyama Chemical Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51039687	A2	19760402	JP 1974-109954	19740926
AU 7580431	A1	19761028	AU 1975-80431	19750423
US 4087424	A	19780502	US 1975-571479	19750424
IL 47168	A1	19790725	IL 1975-47168	19750424
IL 53485	A1	19790930	IL 1975-53485	19750424
GB 1508062	A	19780419	GB 1975-17557	19750428
GB 1508064	A	19780419	GB 1977-15360	19750428
GB 1508063	A	19780419	GB 1977-15363	19750428
DE 2519400	A1	19760304	DE 1975-2519400	19750430
DE 2519400	B2	19810521		
DE 2519400	C3	19820211		
DE 2559932	C2	19830421	DE 1975-2559932	19750430
DE 2560239	C2	19841011	DE 1975-2560239	19750430
CA 1061331	A1	19790828	CA 1975-226043	19750501
FR 2269937	A1	19751205	FR 1975-14159	19750506
FR 2269937	B1	19790615		
CH 605995	A	19781013	CH 1975-5847	19750506
FI 7501340	A	19751110	FI 1975-1340	19750507

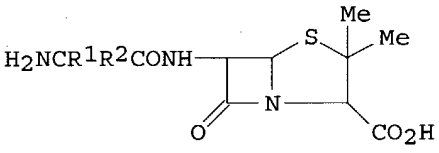
FI 63760	B	19830429		
FI 63760	C	19830810		
DK 7502019	A	19751110	DK 1975-2019	19750507
DK 151338	B	19871123		
DK 151338	C	19880718		
AT 7503511	A	19770315	AT 1975-3511	19750507
AT 340046	B	19771125		
DD 117882	C	19760205	DD 1975-185922	19750508
HU 169633	P	19761228	HU 1975-TO1002	19750508
SE 7505392	A	19751223	SE 1975-5392	19750509
SE 431457	B	19840206		
SE 431457	C	19840517		
GB 1508071	A	19780419	GB 1976-2002	19760119
US 4112090	A	19780905	US 1976-654060	19760130
US 4110327	A	19780829	US 1976-732860	19761015
FR 2320295	A1	19770304	FR 1976-31895	19761022
FR 2320295	B1	19801107		
IN 145443	A	19781014	IN 1976-CA2121	19761127
IN 145444	A	19781014	IN 1976-CA2122	19761127
US 4410522	A	19831018	US 1977-841608	19771012
CH 616939	A	19800430	CH 1977-16075	19771227
FI 62833	B	19821130	FI 1978-330	19780201
FI 62833	C	19830310		
US 4219554	A	19800826	US 1978-915873	19780615
CA 1078384	A1	19800527	CA 1978-308161	19780726
SE 7808204	A	19780727	SE 1978-8204	19780727
SE 435062	B	19840903		
SE 435062	C	19841213		
DK 7901049	A	19790314	DK 1979-1049	19790314
DK 149950	B	19861103		
DK 149950	C	19870928		
US 4379152	A	19830405	US 1979-39904	19790517
US 4327097	A	19820427	US 1979-47818	19790612
DK 8000958	A	19800306	DK 1980-958	19800306
DK 151958	B	19880118		
DK 151958	C	19880718		
FI 8100165	A	19810121	FI 1981-165	19810121
FI 65780	B	19840330		
FI 65780	C	19840710		
FI 8100468	A	19810216	FI 1981-468	19810216
FI 62834	B	19821130		
FI 62834	C	19830310		

PRIORITY APPLN. INFO.:

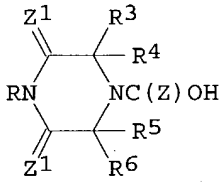
JP 1974-50663	19740509
JP 1974-52254	19740513
JP 1974-60787	19740531
JP 1974-91996	19740813
JP 1974-109954	19740926
JP 1974-142499	19741213
JP 1975-142499	19750327
JP 1975-37027	19750327
JP 1975-37207	19750327
IL 1975-47168	19750424
US 1975-571479	19750424
GB 1975-17557	19750428
IN 1975-CA852	19750428
CH 1975-5847	19750506
DK 1975-2019	19750507
FI 1975-1340	19750507
US 1976-654060	19760130
FI 1978-330	19780201
US 1978-915873	19780615



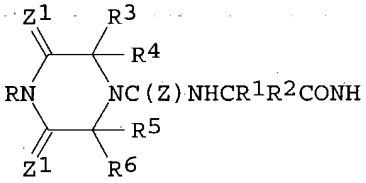
I



II



III



IV

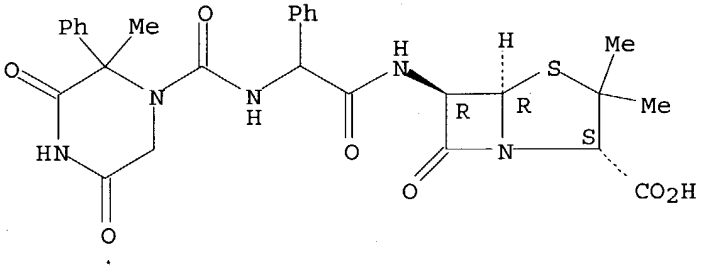
AB Penicillins I (R = H, halo, OH, NO2, cyano, alkyl, acyloxyalkyl, aryl, cycloalkyl, etc.; R1 = alkyl, cycloalkyl, cycloalkenyl, cycloalkadienyl, aryl, aralkyl, alkylthioalkyl, aryloxy, heterocyclyls; R2 = H; R1R2 may form a cycloalkyl, cycloalkenyl, cycloalkadienyl ring; R3-R6 = H, halo, CO2H, alkyl, acyloxyalkyl, aryl, etc.; R3R4 or R5R6 may form a cycloalkyl, cycloalkenyl, cycloalkadienyl ring; Z, Z1 = O, S), and their salts and esters were prepd. by reaction of the amineacetamidopenicillanic acids II or their derivs. with the piperazines or their III reactive derivs. or by reaction of 6-aminopenicillanic acid or their derivs. with the piperazinecarboxamidoacetic acids IV or their reactive derivs. I are antibiotics with a wide antibacterial spectrum. Thus, 244 mg 2,2-pentamethylene-3,5-dioxo-1-piperazinylcarbonyl chloride in THF was treated at 0.degree. with 350 mg D(-)-.alpha.-aminobenzylpenicillin in 80% aq. THF and the mixt. adjusted to pH 8.0-8.5 with Et3N and then at 5-10.degree. and pH 7.5-8.0 to give 500 mg D(-)-.alpha.-(2,2-pentamethylene-3,5-dioxo-1-piperazinylcarboxamido)benzylpenicillin. Also, prepd. were D(-)-.alpha.-(4-benzyl-2,2-pentamethylene-3,5-dioxo-1-piperazinecarboxamido)-, D(-)-.alpha.-(4-.beta.,.beta.,.beta.-trichloroethoxycarbonyl-2,2-pentamethylene-3,5-dioxo-1-piperazinecarboxamido)-, D(-)-.alpha.-(3,5-dioxopiperazinecarboxamido)-, D-(-)-.alpha.-(2-methyl-2-phenyl-3,5-dioxopiperazinecarboxamido)-, and D(2-)-.alpha.-(4-benzyl-2-methyl-2-phenyl-3,5-dioxopiperazinecarboxamido)benzylpenicillins.

IT **59703-79-6P 59703-82-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 59703-79-6 CAPLUS

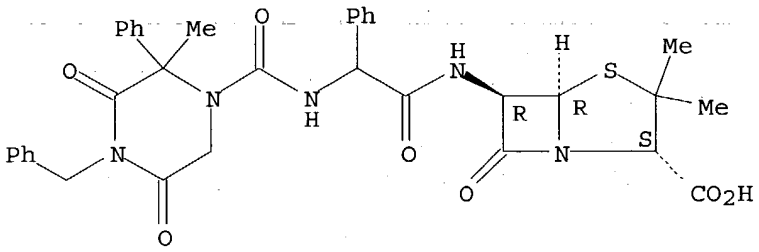
CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-6-[[[[(2-methyl-3,5-dioxo-2-phenyl-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-7-oxo-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 59703-82-1 CAPLUS
CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-6-[[[[[2-methyl-3,5-dioxo-2-phenyl-4-(phenylmethyl)-1-piperazinyl]carbonyl]amino]phenylacetyl]amino]-7-oxo-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

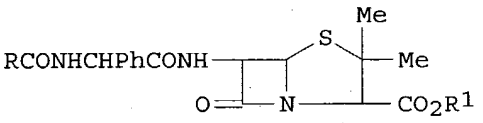


L4 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1976:433052 CAPLUS
DOCUMENT NUMBER: 85:33052
TITLE: Penicillin and cephalosporin derivatives
INVENTOR(S): Saikawa, Isamu; Takano, Shuntaro; Yoshida, Chosaku; Takashima, Okuta; Momonoi, Kaishu; Kuroda, Seietsu; Komatsu, Miwako; Yasuda, Takashi; Kodama, Yutaka
PATENT ASSIGNEE(S): Toyama Chemical Co., Ltd., Japan
SOURCE: Ger. Offen., 237 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

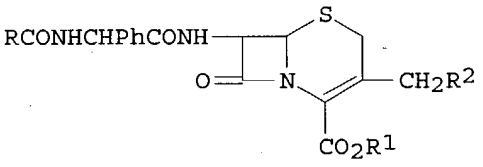
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2519400	A1	19760304	DE 1975-2519400	19750430
DE 2519400	B2	19810521		
DE 2519400	C3	19820211		
JP 50148378	A2	19751127	JP 1974-50663	19740509
JP 50148380	A2	19751127	JP 1974-52254	19740513
JP 50151891	A2	19751206	JP 1974-60787	19740531
JP 51023284	A2	19760224	JP 1974-91996	19740813
JP 51039687	A2	19760402	JP 1974-109954	19740926
JP 51070788	A2	19760618	JP 1974-142499	19741213
JP 51113890	A2	19761007	JP 1975-37207	19750327
AT 7608289	A	19771215	AT 1976-8289	19761108
ES 454266	A1	19771216	ES 1976-454266	19761215
ES 454267	A1	19771216	ES 1976-454267	19761215

US 4379152 A 19830405 US 1979-39904 19790517
PRIORITY APPLN. INFO.: JP 1974-50663 19740509
JP 1974-52254 19740513
JP 1974-60787 19740531
JP 1974-91996 19740813
JP 1974-109954 19740926
JP 1974-142499 19741213
JP 1975-37207 19750327
AT 1975-3511 19750507
US 1976-654060 19760130
US 1978-915873 19780615

GI



I



II

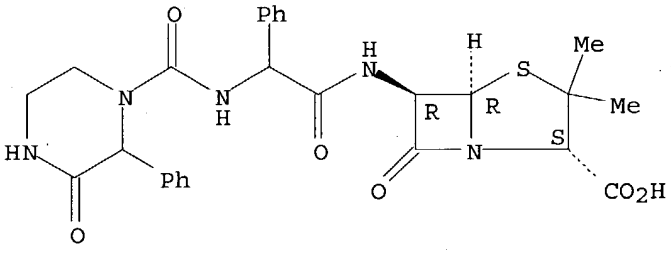
AB Acylaminobenzylpenams I and -cephems II (R = substituted oxopiperazino; R1 = H, Na, ester; R2 = H, OAc, heterocyclic thiol) (164 compds.) were prepd. by acylating aminobenzylpenams and -cephems. Thus 1-acetyl-3-oxopiperazine was treated with COCl2 and used to acylate ampicillin to I (R = 4-acetyl-2-oxopiperazino, R1 = Na).

IT **59703-75-2P 59703-79-6P 59703-82-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 59703-75-2 CAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[[[[(3-oxo-2-phenyl-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

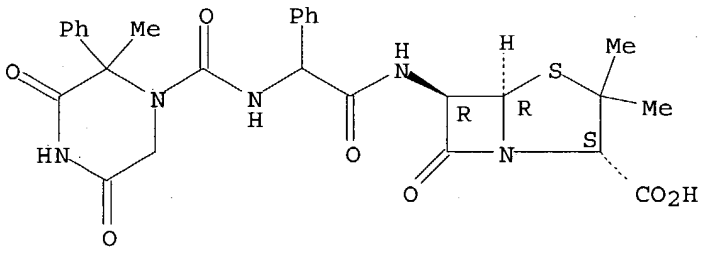
Absolute stereochemistry.



RN 59703-79-6 CAPLUS

CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-6-[[[[(2-methyl-3,5-dioxo-2-phenyl-1-piperazinyl)carbonyl]amino]phenylacetyl]amino]-7-oxo-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 59703-82-1 CAPLUS
CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 3,3-dimethyl-6-[[[[[2-methyl-3,5-dioxo-2-phenyl-4-(phenylmethyl)-1-piperazinyl]carbonyl]amino]phenylacetyl]amino]-7-oxo-, [2S-(2.alpha.,5.alpha.,6.beta.)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.